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ABSTRACT

This document presents the proceedings of a Regional Academic Library Symposium, "Brick and Click Libraries." Contributors are professionals from colleges and universities in the states of Iowa, Kansas, Missouri, and Nebraska. Papers include: "Library Web Site Redesign and Usability Testing" (Michelle Beattie and Susan Sykes Berry); "The Competition between Free Internet Search Services and Library Resources" (Xiaotian Chen); "Ebooks and the E-ssential Library: A Discourse on How the Electronic Book Might Enhance the Mission Centrality of Academic Libraries" (Rod Henshaw and Claudia Frazer); "Generation X Learning Styles and Online Instruction" (Lori Mardis, Vicki Wainscott, and Jolaine Zweifel); "'E-volving' To Meet the Needs of Remote Patrons: Access to Journal Articles" (Jodie Morin, Ann Klavano, and Margaret Stangohr); "Click and Brick: Mastering Discipline Specific Information Resources Using Library Resources, a College Portal and Course Management System" (Linda Loos Scarth); "Dreamweaver Workshop" (Carol Spradling and Carolyn Hardy); "Collaboration and Change in an Academic Branch Library: An Overview" (John Stratton and Nancy Burich); "Beyond Author/Title/Subject: Government Information in Context" (Geoffrey D. Swindells); "From Chaos to Consensus: A Hybrid Model of Web Page Management" (Connie Ury and Frank Baudino); "Integration of Instructional Technology into Courses" (Roger Von Holzen and Darla Runyon); "Tailoring Reference Services for the 21st Century User" (Daryl C. Youngman). (AEF)

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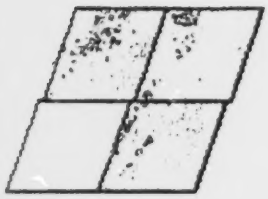
Brick and Click Libraries: How Do We Support Both?



Proceedings of a Regional Academic Library Symposium
Iowa, Kansas, Missouri & Nebraska

Friday, October 26, 2001

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Library Web Site Redesign and Usability Testing

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Kansas City, Missouri

Abstract

Top Ten Steps to Library Web Site Redesign:

10. Form a Web site committee
9. Have meetings
8. Set timeline
7. Study and criticize present Web site
6. Write proposal to administration asking for funds to hire a Web site design firm
5. Hire design firm
4. Alter timeline while waiting for design firm to produce something
3. Input content into Web site template from design firm
2. Test Web site for usability
1. Modify Web site and retest for usability again and again and again....

Is this the way you envision redesigning your library's Web site? If so, this session is for you! The main Web site of the University Libraries at the University of Missouri-Kansas City (UMKC) was not substantially changed since 1997. Meanwhile, the Health Sciences and Dental libraries created completely different Web sites with different design from the main library to incorporate important new features. In an effort to create continuity of usage and look, a Web site redesign project began in September 2000 with all three libraries sharing in design.

We will discuss the actual process undertaken by UMKC to get to the point of usability testing. We will also talk about our usability testing and how the feedback has been incorporated into the Web site organization and features. We will share the obstacles and victories in this ongoing, frustrating, and rewarding process that will help you with your library's next Web site redesign.

The Competition between Free Internet Search Services and Library Resources

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Abstract

This paper aims to raise the awareness that academic libraries are losing students in the competition with free Internet search services, and efforts taken by some libraries such as personalization/customization (mylibrary or library portal), dynamic library Web sites, and going to where students go, etc. may not work for all libraries. The author of this paper believes that faculty and student information literacy education might be the key for academic libraries to win the students back.

The author is grateful for editing of this paper by Karen McClaskey and Richard Coughlin of Truman State University Library.

Introduction

Academic libraries have faced competition with free Internet search services ever since they became available, but recently this competition seems to have become an uphill battle for academic libraries because new college students are experienced Internet users. They have used the free Internet search services for years and may believe that everything they need can be found from these free search services. It seems more difficult to persuade them to switch to subscription-based databases after they enter college.

Kibirge and DePalo surveyed four New York City colleges in 2000 and found that the vast majority of students would choose free search engines as their preferred sources for academic research: 84% choose free search engines and only 16% choose library databases (Kibirge and DePalo 14). Presenters at the 2001 ACRL National Conference mentioned similar

usage trends and survey results in an Ivy League university and research university on the east coast.

Truman State University Data

The author of this paper believes that this is the national trend and will use the data from the Truman State University campus to support that, and will also discuss the possible solutions to the problem.

Truman State University is a public liberal arts and sciences college with about 5,500 FTE students. Because it is a residential college, its library is the center of the campus. Though there are no comprehensive data to compare the library usage on Truman campus and that of other colleges, the available data suggest that library usage at Truman is above the average of comparable colleges. For example, an E-journal collection usage data show that Truman's usage of this database is not only well above colleges of comparable size, but also above the national average with all kinds of institutions of higher education, and the data have been consistent since the E-journal collection was released. Table 1 is the year 2000 data.

Table 1: Year 2000 usage activities of an E-journal collection (including searching, browsing, printing, etc) of Truman, average of medium size colleges, and national average.

Truman State University	50,635
Average US Medium	27,706
Average All Sites	38,892

OCLC interlibrary loan data show that Truman is always a top 10 borrower and lender among all kinds of libraries in Missouri. In the last academic year, Truman was the #6 borrower, having borrowed more ILL materials than any other comparable colleges in the state of Missouri (MLNC Newsletter 8/2001).

Though we feel good when we see these available data and compare with other colleges, we are troubled when we compare our own data chronologically: since Fall 2000, uses of subscription-based databases are down across the board, with some being down over 50%. And surveys show that more students would turn to free search engines first for their academic research, though the percentage is not as troubling as that of the four New York City colleges.

Table 2 lists eight bibliographic (non full-text) indexes of all subject areas, from art and humanities, to science and medicine, to social science, to general. Compared with the academic year of 1999-2000, the academic year of 2000-2001 sees a dramatic decrease in the usage of these periodical indexes. Some are down 50% or even over 60%.

Table 2: Last two academic years uses of some bibliographic (non full-text) databases

Databases	1999-2000 searches	2000-2001 searches	% down
AA	6261	4521	27.8%
BD	4519	1932	57.2%
CN	4019	2091	48%
GS	7555	4020	46.8%
HA	5369	4140	22.9%
RG	10802	3982	63.1%
SO	4027	1760	56.3%
SS	11592	6627	42.8%

Nothing dramatic happened during this period that could possibly cause the change of library databases usage: there is little change in student population or curriculum, no dramatic addition or cancellation of library resources in any format. Have the students moved to the more popular full-text databases? Negative. In fact, the usage of some full-text databases is also down, and Table 3 is an example:

Table 3: Two typical months of last 3 years of searches in a popular full-text database.

	1999	2000	2001
March	8,592	8,976	3,571
April	10,630	11,577	4,748

Therefore, the only possible cause of this library database usage decrease is that our current students do not use library resources as often as the students in 1999 did. And one obvious difference between our current students and those in 1999 is that our current students have substantial free Internet experience before they enter college. Probably they are so used to their favorite free search services that it is hard for them to switch to library resources. In addition, they may have had the belief for years that most of the information they need for research would be available on the Internet for them to copy and paste. Therefore they tend not to start their research until the last minute and just use whatever they find through the free search services and copy and paste to their homework.

Surveys mentioned earlier all indicate that free Internet search services would be the first preference of more students in their academic research. In addition, in Fall 2000 and Spring 2001, survey questions were handed out to three classes on the Truman State University campus. Each class had about 25 students of various majors and different levels from freshmen to seniors. Four of the survey questions asked students how often they use the library catalog, library full-text databases, library non full-text databases, and free search engines/Web directories. The results from the three classes were identical: about 1/10 have never used the library catalog, 1/3 have never used any library full-text databases, half have never used any non full-text databases, and all have used free search services. More students would turn to free search services first for their academic research needs. Tables 4 and 5 show the results of one 26-student class.

Table 4: How often have you used library resources and free resources?

	Never	A few times	Many times
Library catalog	3	16	7
Full-text databases	8	11	6
Non full-text	13	9	3
Free search engines or Web directories	0	2	24

Table 5: One answer to the question "When you need to find information for academic needs (e.g., for your paper or other assignments), which sources do you normally turn to first?"

Free Internet search services	12
Library catalogs and other databases	3
Resources recommended by instructors	5
It depends	6

How about print periodicals? We do not have data that can be compared chronologically, but related data clearly indicates that use of print periodicals is down, because first of all, as shown in Table 2, the use of periodical indexes are considerably down across the board, and secondly, our last academic year's photocopying in the library was down dramatically by over 44% when compared with the previous academic year.

Free Internet Services

Why are free Internet services more popular among our current students? Or why aren't we doing as well as before in library database usage? These are two key reasons: one is that free Internet services are convenient to use and among young people have "gained the reputation for providing all that one needs right at one's fingertips"(Kibirge and DePalo 12). The other reason is that our current students may not quite understand what these free services can and cannot do, as they started to use them when they were very young and knew little about scholarly research, and they do not know that what may have been acceptable research in elementary and high schools may not be acceptable at the college level.

Nevertheless, free Internet resources have developed quickly to attract their users, from traditional search engines/Web directories such as YAHOO, to personalized search services such as MyYAHOO, to machine-generated-answers services such as AskJeeves, to person-to-person chat services such as Askme.com. They have taken away a lot of business from librarians and

other professionals. It was reported during two weeks in July 2001, one person involved in one subject area in Askme.com received 943 questions, and he answered 939 of them through the person-to-person service. Though that person received very high ranking by his "patrons", professionals would find it ridiculous: that highly rated Askme.com "expert" turned out to be a 15-year-old boy and his subject area in Askme.com is criminal law, though he has no education in that area (Owen, 12).

These free services are no doubt libraries' competitors, but librarians cannot agree if we should introduce/teach them. Some believe we should not, but others think we should teach them and be proud of it. Faculty are divided in directing students to proper research resources too, as some simply have a "no-Internet" policy, forgetting that library catalogs and many periodical indexes are on the Internet. Some faculty simply accept whatever students find from the Internet.

Conclusion

We believe teaching free search engines and being proud of it could be one reason academic libraries are losing students. Free Internet services indeed are good places for news, weather, stock prices, shopping guides, and many other personal and recreational information needs, but if librarians often direct students to these services for academic/research needs, we should not blame people if they ask us why they need the library since there is the Internet.

Some libraries have realized the situation and have tried to get students back. Here are some ideas:

- Personalization/Customization such as Mylibrary or library portal
- Dynamic library Web pages
- Go where students go

Mylibrary is a mimic of MyYAHOO and MyCNN and was started at North Carolina State University. It might be a good project for graduate students on big research university campuses with hundreds of databases. But medium and small campuses may not have so many databases to personalize, and may find it hard to get technical support. Moreover, their undergraduate students need to take classes from all disciplines and use a broad range of resources. Similarly, the ideas and practices of dynamic library Web sites and going where students go can only be something supplementary rather than fundamental. If 84% students would choose to use free search engines rather than library databases in the first place, as they do in New York City. they would never visit their library home page and would not be able to see the library resources no matter how attractive the library Web pages are and how many resources the library offers. At any rate, at present, we cannot move the whole library to YAHOO or AskJeeves even if that's where students go, can we?

Therefore, we believe the key point is that librarians should be very clear in helping faculty and students understand the differences between free search engines/Web directories and library databases. Herring made some very good points in his "10 Reasons Why the Internet Is No Substitute for a Library" (Herring, 76-78). Cohen argues that librarians should not endorse YAHOO (Cohen, 60). What they have said in common includes the facts that

- most scholarly journals cannot be found for free;
- most of the free Web pages retrieved from the free search services are commercial and personal Web pages;
- and the free search services do not have quality control.

Of course, the new person-to-person service such as Askme.com does not have quality control either as mentioned earlier with the 15-year-old boy being the top-rated expert in

criminal law. On the other hand, our current students do not necessarily want to get everything on the Internet. Informal surveys from two classes at Truman indicate that most students would rather read books in the traditional format against electronic books either on the Web or stored in E-book devices. The point is that librarians need to change students' illusions that free Internet search services can provide all that one needs right at one's fingertips. We also need to correct the two extremes of the faculty policies of either "no Internet" or "any Internet". An academic librarian in Missouri once used 3 words in talking about what librarians should do with this issue: "Direct, Direct, and Direct". We would like to add 3 more words: "Educate, Educate, and Educate". If any educated person believes he or she can do all of their academic research from the free Internet services, we would ask him or her, "Why would you need to go to college if AskJeeves or Askme.com can get you everything?"

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Ebooks and the E-ssential Library: A Discourse on How the Electronic Book Might Enhance the Mission Centrality of Academic Libraries

Rod Henshaw, Dean
Claudia Frazer, Coordinator, Resource Description and Materials Management

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Des Moines, Iowa

Abstract

As the nature of our information and cultural record changes in the digital age, we need libraries that have characteristics that both change and endure. Our professional challenge is to provide libraries that are more essential to our society and educational institutions than those that have endured for centuries before.

Electronic books, though still in their infancy as a content medium, present an opportunity to integrate library content directly at the point of learning.

This presentation will address the distinctive characteristics of electronic books. The presenters will reflect on the nature of descriptive cataloging, and how a new approach might be developed to provide access to digital learning objects such as the electronic book. This new approach could be used to expand and alter the service domain of the academic library, especially as it relates to instructional design and delivery. This curriculum integration could also provide librarians with the ability to track the nature of the use of each electronic object. The presentation will conclude with some thoughts on how libraries might need to alter and adapt the traditional mission and organizational structure to accommodate this new role.

Generation X Learning Styles and Online Instruction

Lori Mardis, Information Librarian
Vicki Wainscott, Head Librarian for Access Services
Jolaine Zweifel, Computer Software Specialist, Center for Instructional Technology in Education

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Maryville, Missouri

Abstract

Wondering how to make library instruction appealing to Generation X? Studies have found that people in this age group learn best working independently with materials that incorporate multiple sensory organs. This presentation will explore methods of enhancing distance education teaching modules and tutorials with multimedia components that are both self-paced and engage multiple senses. Owens Library and CITE (Center for Instructional Technology in Education) instructors will model PowerPoint's Real Presenter, Camtasia, and Tegrity as ways of accomplishing this goal.

"E-volving" to Meet the Needs of Remote Patrons: Access to Journal Articles

Jodie Morin, Reference Librarian,
Ann Klavano, Reference Librarian for External Services
Margaret Stangohr, Technical Services & Systems Librarian

Buena Vista University
Storm Lake, Iowa

Abstract

Buena Vista University (BVU) has been serving distance education students in Iowa for a quarter of a century through a system of attendance centers located at community colleges. Currently more than half our students get their bachelor's degree through attending classes at one of these 15 centers. The BVU Library took a proactive leadership role in serving our remote users with the advent of the university's graduate education program in 1996, much of which is taught remotely over the Iowa Communications Network (ICN).

Technology has played an enormous role in the number and quality of services we are able to offer to our remote users, but technology also necessitates that the library wrestle with such issues as patron authentication, database licensing, document delivery, and training remote users.

Balancing the needs of our remote patrons with the demands of our on-campus patrons has been challenging. This presentation will focus on how a small library has met and is continuing to meet that challenge, especially in terms of supplying our remote patrons with access to databases and journal articles. We will discuss the choices we have made and close with some ideas of how we might serve distance education students in the future.

Click and Brick: Mastering Discipline Specific Information Resources Using Library Resources, a College Portal and Course Management System

Linda Loos Scarth, Reference Librarian

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Cedar Rapids, Iowa

Abstract

Rather than "either-or" (click or brick), the mastery of information resources and teaching/learning tools is really "more and more" (click and brick). Just as information and knowledge are cumulative, so are information formats and the ways to access and use them. Information carriers usually do not disappear because new formats are developed; they just accumulate. Mastering, or at least becoming aware of, both print and electronic accumulations is important to most academic experiences. Learning about the resources of a discipline involves discovering why it is important to know about resources; what is available in which format; the local college mechanisms to be used to access, study, and produce academic work; and, to develop the ability to transfer the underlying principles of the process across disciplines, libraries, and one's personal and professional life. Just as students must master information sources, colleges must master the technology to provide those resources. For Mount Mercy College this currently involves the launching of a college portal and course management system (CMS) and integrating it into the college's culture and instructional strategies. Distributed teaching/learning mechanisms should be among the choices for faculty and students in the current technological and pedagogical climate. Using one discipline, nursing, as the main example, this paper presents a way to combine "click and brick" instruction using a college portal, a course management system (CMS), and the college library's services and collections. It

is also a way to demonstrate the practicality of the integration of library services into a portal and course management system.

Introduction

Just as most of human activity is a reflection of underlying beliefs, so is a college. Those beliefs involve the organization of knowledge, development of communities to foster learning, and providing the mechanisms that integrate learning activities with the required knowledge and available information resources. The college library and academic/administrative computing services are integral to the expression of those beliefs. This paper is an example of how one college is acting on its beliefs about learning, appropriate use of technologies, and our belief that colleges and libraries should and must remain "click and brick" entities (or to use the jargon from several years ago – "high tech and high touch"). The purpose is to describe a way of teaching the mastery of information resources in a library collection, using course management system (CMS) software accessed through the college portal, and how we got to the point where this was possible. As well as the technologies, the collaboration of librarians and faculty is essential in implementing a tutorial and other integration of library services into a course management system. We believe that library-use tutorials are more successful for students, faculty, and librarians when discipline-specific resources are used.

I am not including a formal review of literature because current literature on portals and course management systems is not particularly relevant to the experience described here. Most information on portals speaks of them as business models or as central distribution/access points to databases by groups of universities and publishers. Also, articles about course management systems are either about the businesses marketing them, features of specific products, or

individual users of them. There is a wealth of information on library instruction but little on the incorporation of library instruction and access to the college library through its portal and CMS.

However, there have been articles encouraging higher education in general to plan for distributed education. Munkittick (2000) outlined six elements necessary to build what she called connected learning environments. Five of the six are relevant to this paper. They are:

1. infrastructure and support,
2. an administrative system and data sharing,
3. a customized portal (in our case, a college portal),
4. course development and management tools, and,
5. an integrator of course content with other resources.

We concur with the first four listed here. Munkittick described the integrator as a mechanism for getting course content from other online courses. We regard the library as the integrator of content from a wide range of resources into any particular course and across the curriculum. Most writers have ignored the library in discussing portals and/or CMS. CREN (Corporations for Research and Educational Networking) sponsored an online TechTalk in April 2001 on "Course Management Systems: Today and Tomorrow" http://www.cren.net/know/techtalk/trans/cms_1.html) where at least one speaker regarded libraries and course management software as separate, unrelated systems.

Because there are differences in how the terms "portal" and "course management system" are used, the following definitions will provide common ground for this discussion. A **portal** is a Web server where a designated group may work, share information, conduct business, and teach/study. A **Course Management System** is an integrated suite of software supporting distributed teaching/learning experiences. We should also define **distributed education**. It is

making some or all of course teaching and learning experiences, including library resources, available to students and faculty both on and off campus at any time and in any place where there is World Wide Web access. We emphasize the "some" because our college values face-to-face interactions in the teaching/learning process while also using other strategies.

Background

This story begins with the Y2K concerns expressed by the college library director, about the college's ancient administrative computer and software in the early and mid 1990s. The library automated at that time and proceeded to broaden its collection of electronic sources to augment the print collection. Reference staff have long prepared print and electronic discipline specific tutorials for courses. The WWW blossomed and Busse Library launched the library and college Web sites. The main college Web site for public relations and recruiting is now managed by the college Relations office. Library staff continue to maintain the college catalog and other basic information sources on the college site. The library Web site continues to grow and maintain its commitment to easy user access both on and off campus.

The computer center, which originated in the library, was assigned a new responsibility several years ago when the center director was promoted to a new college position, Director of Campus Computing, and the college administrative computing function was moved to the library/computer center. He and the library director led the process of networking the campus and selecting, installing, and maintaining the new administrative computer and software for the campus. In the meantime, the library began obtaining licenses on resources for use on the campus network and, in some cases, for off-campus use. When the vendor of our administrative computing system (registrar, business office, etc.) offered a customizable portal and CMS earlier this year, the time was ripe to begin adding that utility for interested faculty, students, and staff.

Among our reasons for launching the portal and CMS are: the distributed education possibilities; the ability to integrate the library into the "electronic campus" in addition to its presence on the physical campus; fostering faculty development and adding new teaching and learning strategies; the Web-based e-mail package for personal e-mail, course e-mail, alumni e-mail, etc.; student convenience with 24/7 access to a wealth of resources; introducing students to portal technologies that are increasingly used in the workplace; a place for Web-based student portfolios if needed; and because our institution desires to be competitive in higher education.

We (librarians and computer center staff) practiced with the CMS software in the spring. In late May, a company trainer spent two days on campus demonstrating the portal and CMS to groups of faculty and staff. The following week, at a four-day teaching strategy workshop for a dozen faculty, I presented one session using the CMS to demonstrate several of its useful features, even for a traditionally constructed class. Four faculty attended a statewide workshop on course management software at the end of May. In early August, these four faculty led a weeklong workshop on using a CMS with the help of the library director and myself. Over the summer and into the fall semester, short introductory workshops for faculty and staff were offered. To date, 90% of our faculty have attended at least one workshop, all of which were run by our library director.

Several faculty used parts of the CMS during the college summer school session. Several more are using one or more features this fall. Adjunct faculty are finding the CMS very useful. The most common use is the portal's e-mail function. Every student and faculty who has activated his/her account has Web-based e-mail and the enrollment in each course is on an e-mail list for that course within each of their portal accounts. We have assisted faculty in preparing materials for their courses, especially those involving links to electronic library sources. We also

troubleshoot any problems which students or faculty may be having with their accounts. The professional academic programs are the most represented among the users. Eventually we expect all students to use their accounts.

The Examples

We regard the college portal and CMS as part of the "more and more" of instructional techniques, information access and course material venues and never "either-or". Links to the Busse Web and individual electronic resources figure prominently on the portal – in the portal's "Library" and "On Campus" links. The portal is another access point for our services as well as other college functions. The following examples use the portal in varying degrees, just as faculty will use it to their level of comfort and appropriateness for their particular courses.

In the summer, the team teachers for the introductory nursing course asked me to work with them in revising the library use unit for the course. Before meeting with the teacher in charge of this aspect of the course, I developed a draft of how the required tasks, and more, could be done using the portal and CMS. She was pleased with the draft and made several requests. Both instructors attended several campus-training sessions and decided to put more of this course in the CMS than just the tutorial. The second instructor includes some of the CMS features in several of her courses.

The components of the Mastery of Nursing Information Resources unit include readings, assignments, and coursework. The assignments include online questions and answers about the nature of information literacy, finding resources, writing citations, and library services which are commonly part of library instruction courses. There are links to journal articles, library Web pages, periodical indexes and databases, library use tip sheets, and more in the unit. The CMS records the students' progress in completing the unit in the instructors' gradebook automatically.

This is a tutorial which students may repeat as many times as necessary to get all answers correct. The aim is to teach rather than to test, though the software's test feature is used to produce the questions. The true test will be how well they apply what they learn about locating information to other tasks including a paper on a particular aspect of health care.

The assumptions behind the tutorials are simple, atheoretical, very practical, and are based on our experience with students and faculty. The assumptions are as follows:

- Faculty assume students know about the storage and retrieval of information and the use of libraries. Students do not. Students have information needs by definition.
- They have assignments. No one is born knowing. Students use resources they know and rarely venture to new resources without incentives. Good students probably have more previous knowledge about course content and/or use more information sources. Few students have a burning need to use a library unless directed to do so. Simple sets of activities that introduce students to resource types and search strategies are needed.
- Discipline- and assignment-specific instruction are the most effective. Some transfer of learning may occur.
- The most important information skill for a student to learn is to request the assistance of a librarian or information professional.

The second tutorial example is not imbedded in the CMS, but may be linked to course Web links, to another Web page, or be found on the library Web. It is a smaller but similar online tutorial for Introduction to Psychology students that resides on the college Web server rather than the portal. Psychology faculty can link it to the course page in the portal or direct students to the library's link to the tutorial. This tutorial is found at http://www.mtmercy.edu/lib/ps011mir.htm. The Web page can be printed with the list of linked pages and be used as a

handout assignment. The assignment works best as a combination of "brick and click"; a paper copy in hand on which to write while following the links online. We also may make this and similar discipline-specific tutorials available as word documents or editable pdf files in the future. That way they can be loaded as handouts in the CMS, opened in a reader, "typed" upon, and printed.

Other possibilities for using library resources from within the CMS are being found and requested. One instructor was so taken with the CMS, she immediately asked whether there was a way to make links to a set of full text readings from within the CMS so she would not have to put these articles on print reserve. All of the first set of readings is from one database vendor, which allows passworded access so copyright clearance is provided. The CMS software adds some JavaScript which undermines the link to the periodical database so I built a Web page to reside on our server that is only linked to the course on the portal's server. Access to the articles from off-campus computers requires two passwords – one to the student's portal account and the second to the database vendor after clicking on the article link. Another instructor is using the CMS forum (asynchronous chat) function to discuss selected issues with teacher education students and their cooperating teachers in community schools. The cooperating teachers were given passwords only to that forum. Finally, an adjunct English teacher uses the forum capability to extend class discussion and grades on participation.

Future

The future for library involvement includes adding other discipline- or course-specific tutorials about mastering information resources as more faculty use the CMS. Including assignments with a wider range of courses will improve student familiarity with an increasing collection of sources and offer the benefits of practice. We feel we will reach more students and

faculty in this way. As faculty grow more accustomed to the CMS, we think they will gain more confidence in selecting from our library resources to make specific assignments to students. We anticipate increased use, additional requests for new ways of doing things, and more links back to the library. Additionally, we are developing a "course" for our student workers in the library/computer center. Handouts, tutorials, schedules, announcements, and e-mail communication will be among the uses possible because of the CMS on the portal. And we will continue to troubleshoot, coach, and teach faculty, staff, and students on the use of the portal, CMS, library resources, and other forms of information technology as they become available.

The college expects a third integrated module that will complement the portal and CMS. It is the Web front-end for the administrative tasks where registration, advising, and other related activities occur. All three modules are coordinated through the college administrative database. When all are in place, the entire college community will have increased efficiency in accomplishing some tasks and the latitude to create other uses. With this will come new ways of interacting with the business and educational components of the college using the integrated package. Because librarians were part of the planning and implementation, the library and librarians will remain an important part of future developments, as resources and trainers for the faculty, administrative staff and students and as continuing support for "click and brick" instruction.

We do not expect that all faculty will use the CMS but that many will use at least one feature or another in a given semester. We do expect that the portal will become a point of entry to the library Web as well as the other academic support systems when students are not on campus. Faculty will use the Web access to academic support systems from their offices.

We also see it building community. One of the first social developments I observed is that more students seem to be in the library during the day. They are working, sometimes in groups, on the reference and other computers doing assignments accessed through their portal accounts. While a student may complete an online assignment at 4 a.m. in his/her room or search a database for articles, the number of students working collegially on these activities between classes in the library and computer center is wonderful to observe and to assist.

In summary, the road to distributed teaching and learning is not entirely smooth but the journey is interesting and invigorating. As colleges choose new applications and technologies, the what, how, why, when, where and by whom will also change. The college library can be the broker in this process and we librarians expect to be. This is just the first installment on how one college library is participating in the adventure.

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Dreamweaver Workshop

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Abstract

With the explosion of the Internet in recent years, Web development has moved beyond the use of HTML (Hypertext Markup Language) coding of flat text-based information on a Web page to graphical, animated, multimedia Web sites. These advances have spurred the development of more user-friendly Web applications that allow Web developers the ability to develop interactive, dynamic Web pages with little to no HTML programming experience. Dreamweaver is one such application. HTML and the Web have been one small step for man; Dreamweaver has become one giant leap for mankind. Helba (2002) estimates that over 70% of all major sites today are created and updated using Dreamweaver.

Dreamweaver is an HTML Web authoring tool that offers capabilities for visual design, editing, and the ability to work directly with HTML code. Dreamweaver helps speed production time for the development of Web sites and provides tools for the management and maintenance of those sites. This workshop will focus on basic Web site development.

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Collaboration and Change in an Academic Branch Library: An Overview

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Abstract

The University of Kansas Edwards Campus (KUEC) and the Regents Center Library (RCL) are full-fledged and integral parts of a greater university. But because the KUEC serves distance learners and nontraditional students, there have been many challenges as well as opportunities for collaboration in designing and delivering library services. This paper will include a brief history of the campus and the library, an analysis of the student population of the KUEC, the challenges involved in meeting faculty teaching and research needs at a branch campus, and an overview of issues related to the operation of an academic branch campus library. There is also a discussion of the changing nature of distance learning at KU and its impact on library services. We include examples of services and collections originally designed for Edward Campus (EC) students that have been modified to meet the needs of distance learners. Finally, we speculate on future collaborative opportunities that will include all of the KU Libraries' departments.

Introduction

The terms "collaboration and change," when used together, connote the idea of cooperation coupled with evolution. In fact, the history of the Regents Center Library and the University of Kansas Edwards Campus may be succinctly summarized by the combined terms "collaboration and change." Our purpose in this paper is to provide an overview of the collaborative efforts on the part of many individuals at the University of Kansas and the

University of Kansas Edwards Campus to meet the changing mission of the institutions we serve. In order to understand the challenges of serving distance learners it is useful to know the background of both the University of Kansas Edwards Campus and the Regents Center Library. The topics we will discuss in this paper include:

- The History and Mission of the University of Kansas Edwards Campus;
- The History and Mission of the Regents Center Library;
- The University of Kansas Edwards Campus Master Plan;
- Distance Learning at KU;
- Distance Education Initiatives at KU;
- The Regents Center Library as "Collaboratory" (Collaboration Laboratory); and
- Future Collaborative Efforts.

History of the University of Kansas Edwards Campus

The University of Kansas Edwards Campus was founded in 1975 and originally occupied the old Linwood Elementary School at 9900 Mission Road in Overland Park, Kansas. From 1975 until 1992, the campus was known as the "Kansas City Area Regents Center"—so named to reflect the fact that other Regents' schools offered courses there. During this 17-year period, the Center existed to serve working adults in the Kansas City region, largely in the areas of teacher education, social welfare, business, and engineering. These four core areas still represent the largest programs at the Edwards Campus.

Since its original founding twenty-six years ago, the campus has evolved and expanded to the point that today, 18 different graduate degrees are offered, two on the doctoral level. The mission of the EC illustrates the unique purpose of our campus. It states:

> The mission of the KU Edwards Campus is to bring the high quality academic programs, research and service of the University of Kansas to the Greater Kansas City community. The Edwards Campus serves the workforce development needs of the region by providing working adults with educational opportunities leading

> to master's and doctoral degrees in business, civic, education, health service, social and technical areas. The Edwards Campus serves the economic and community development needs of the region (Progress Report).

It is worth highlighting that while the Edwards Campus serves as a metropolitan branch campus of the University of Kansas, its mission differs from the main campus in that it is geared toward educating "working adults" in academic areas purposefully designed to support the "workforce development needs of the region." This is an important distinction to bear in mind when considering the design and delivery of library services and functions.

History and Mission of the Regents Center Library

The Regents Center Library (RCL) was established in 1976 and is celebrating its 25th anniversary this year. In the first annual report for the RCL, then-director Nancy Burich wrote:

> The library is located on the second floor of the north wing of an old elementary school building in the rooms once occupied by the school library. On July 1, 1976, the rooms contained a desk, a table, and two chairs (Burich).

Throughout that first year of operations, the library continually added instructional materials and equipment, and grew to contain 3,200 items by the end of the first academic year.

In the fall of 1981, the library moved into the newly renovated gymnasium in the Linwood School with a staff of eight, including three student assistants. The first PC was added to the library in these new facilities. In the intervening twenty years, of course, information technology has had a vast and far-reaching impact on libraries and teaching in the university. By way of comparison, the RCL today houses 18 networked computers, assembled using the scholar's workstation model, in its reference area and has a staff of 16, including 10 library

assistants. In addition, 56 computers networked in four separate labs are located near the library reference desk (Stratton).

Throughout these past twenty-five years the KU Regents Center, now the Edwards Campus, has continued to expand the number of academic programs offered, and the library has kept pace in the design of services to support the academic mission of the campus. The Regents Center attracted so many students in its first years of operations that nearly as soon as it opened, the facility was already overburdened. Plans to expand it began to be seriously considered in the 1980s as the realization grew that additional space was needed to accomplish KU's academic mission to the metropolitan area.

The importance of KU's presence in Kansas City was specially noted in 1987 when the Board of Regents reaffirmed the mission of the University of Kansas, which included a statement noting that KU's first priority is the "preservation and enhancement of its research and graduate programs. To implement this intent, expansion of graduate opportunities will be explored in the Kansas City area" (Kansas). During this time, it was emphasized that library services "shall be of or near the same quality as similar on-campus services," a mission that is still central to the RCL today.

Throughout the 80s, but especially in the latter half of the decade, graduate programs grew to new levels, such that by 1990 ten graduate programs existed. These programs attracted, and continue to attract, mostly non-traditional age students employed in professional positions while pursuing their degrees. It is for this reason that many of the courses taught at the EC are offered in the evening hours.

In the late 1980s, land for the new campus was donated to the University by local developer Clay Blair III. The Edwards Campus was named in honor of Roy and Joan Edwards,

KU alumni and longtime supporters of the University; the first building of the EC opened its doors in January of 1992. The library, housed as a self-contained unit in the southwest portion of the main floor, opened as a fully operational, networked facility. Today, even though the name of the campus has changed, the library is still known as the Regents Center Library.

In the mid-1990s, Director Nancy J. Burich convened a library staff retreat that led to the development and promulgation of the current mission statement of the RCL. This mission, which we still promote today, says that we will:

- Provide information services which support the KU programs offered on the Edwards Campus; these services should at least be comparable to those available on the Lawrence Campus;
- Treat each individual with courtesy and respect;
- Refer patrons to the most appropriate sources of information which fill their needs; this may include referral to community and other academic resources where appropriate;
- Provide support for each other in order to foster a team approach to providing information services (Mission).

Today, at the beginning of the 21st century, the EC offers 18 graduate programs, including doctoral programs in pharmacy and special education, and enrolls an average of 2,300 students per semester. New programs are in the offing and as in years past, we are experiencing growing pains as programs and students outstrip available space. But unlike previous years, technological innovation has been employed to support and augment both courses taught at the EC and the support services offered in the library. It is interesting to note that some of the fastest growing programs at the EC are internet-based.

The evolution of the RCL and the services we offer are intimately connected to the programs offered at the EC. Still, as part of a larger and more complex university environment -- where partnerships and collaborative efforts among all stakeholders are even more important today, perhaps, than in past years -- our central mission has not changed. We continue to serve our patrons to the best of our abilities using the most appropriate tools and research skills, and provide access to important collections no matter where they are located. In an effort to best provide these services, the following individuals comprise the staff of the RCL:

- The director provides leadership, performs numerous administrative duties, and serves an increasingly important role as an advocate for both the RCL and the EC, particularly with the main library administration. In addition, the director works closely with the Distance Education Coordinator in formulating policy governing the provision and delivery of relevant library documents, whether in electronic or paper format, for distance students.
- Two other librarians provide reference and instruction, and assist with the collection development;
- Three staff positions manage the areas of reserve/circulation, document delivery/ILL, and evening/weekend public services. It should be noted that the document delivery manager is also charged with specific responsibilities designed to provide support to the Distance Education Coordinator.
- Ten to twelve part-time library assistants perform a variety of support activities ranging from basic reference to circulation. It should be noted that these important staff members are not comparable to traditional student assistants (age 18-22) working in most campus libraries. They are largely adult workers employed in other occupations on a full-time basis.

The University of Kansas Edwards Campus Master Plan

As we move forward into the future, it is of utmost concern to establish a plan for library services and staffing and align it with the EC plan for growth. The EC administration has developed and promulgated a plan that we as librarians must both understand in significant detail and support to remain a vital part of the campus.

In the fall of 1999, the Kansas Board of Regents approved the long-range, $70 million EC master plan (University of Kansas Edwards). Designed to be carried out over the next ten years, the plan's aim is to significantly expand the campus. It includes the following elements:

- Expand academic programs in support of the mission of the Edwards Campus;
- Construct the campus to include four buildings containing 220,000-sq. ft. of new space. In addition, 1,900 parking spaces would be available on the campus;
- Increase credit-hour production from 30,000 to 60,000 per year;
- Emphasize and sustain partnerships with area businesses, educational institutions, government agencies, and community service organizations;
- Provide offices and research support for resident faculty.

Since one goal of the master plan is to double the amount of credit-hour production on the EC, a more detailed examination of current programs will reveal the direction we seem to be headed. Today, as mentioned earlier, there are 18 current graduate degree programs offered at the EC. In addition, there are two new undergraduate degree completion programs that just commenced at the EC, and a third is slated to begin in the fall of 2002. There is also a new graduate program slated to begin in the fall of 2002, a master's degree in Pharmaceutical Chemistry. Other degrees, both graduate and undergraduate, are in the planning stages. Since technology has had such a profound impact on library services, they will no doubt need to be

continually assessed and reassessed in future years. Following is a breakdown of program-related information as it exists at the EC today:

Masters degrees are currently offered in the following disciplines

Architecture (Management/Practice Option)
Architectural Engineering
Business Administration
Business, Information Systems*
Communication Studies
Construction Management*
Education
Civil Engineering*
Civil and Environmental Engineering
Electrical Engineering or Computer Engineering*
Engineering Management
Health Policy and Management
International Studies*
Journalism (Marketing Communications)
Public Administration
Social Work

Doctoral Degrees are offered in the following disciplines

Educational Policy and Leadership
Pharmacy (PharmD), delivered entirely as a distance education program)*

*Indicates that the program is new since 1997 (Progress Report).

It is true that most of the instruction that occurs in the courses that comprise these programs are conducted in a traditional manner. But is should be noted that Web-enhanced courses offered at the EC increased from 55 in 2000 to 103 this past year. Enrollment in the PharmD program, for example, increased by 68% from 2000 to 2001. Most faculty teaching at the EC continue to commute between Lawrence and Overland Park, just as they have always done. However, faculty for Engineering Management and Health Policy programs are based wholly in Kansas City. Even more enrollment-related information for the EC might be found in

the Progress Report: Success is a Consequence of Moving Forward. University of Kansas Edwards Campus, 1999-2001.

In this report, it is noted that there has been a 23% increase in credit-hour production at the EC since 1997. This is significant for several reasons. It seems clear that the mission of the EC is being fulfilled. Furthermore, when the total number of hours generated at the EC are compared to the total number of graduate credit hours generated among programs conducted at both the EC and the main campus, the numbers are even more revealing. If we view the EC share of total university graduate credit-hours (again for those programs offered both at KU and EC), we see the share of Edwards-based hours have enjoyed significant growth over the last five years:

Total share of

Year	EC graduate hours
1996	41%
1997	43%
1998	46%
1999	50%
2000	51%
2001	56%

(Progress Report).

While graduate programs have been the mainstays of academic programs at the EC, undergraduate programs are growing as well. Twenty-five undergraduate courses were offered in the summer of 2000. Thirty-four such courses were offered during the summer of 2001, largely geared toward the two degree completion programs in English and Biology that commenced this fall.

Since overall program growth is a central goal of the EC administration, it is important to provide information about programs that now are "in the works." The following are now in the planning stages:

- Undergraduate (degree completion programs with area community colleges) with specific commencement times:
  Fall, 2002
    Sign language/Interpreter training (BA/BS)
- **Graduate**
  Fall, 2002
    Master's in Pharmaceutical Chemistry, fall 2002

Yet other programs are being contemplated, but with no specific commencement date in mind, including the following:

- **Undergraduate**
  Bachelor's degree in one of the social sciences (Psychology, Sociology or Leadership; this will probably be a degree-completion program)
- **Graduate**
  Master's in Design Management
  Master's in Liberal Arts (formerly referred to as a Master's degree in "Humanities" or "Social Sciences")
  Master's in Health, Sports and Exercise Sciences
  MBA/MHPM degree
- **Other**
  Information Science and Technology (both undergraduate and graduate levels)
  Systems Analysis and Design (certificate program)

In June 2001, the EC appointed a new Associate Dean for Academic Services specifically charged with new program development. While future challenges will continue to arise, it seems clear that the campus is dedicated to expanding and developing appropriate programs for working adults in the metropolitan region.

While the master plan represents the hopes and dreams of all EC staff, we must not forget the mission of the institution and for whom it was designed: the students of the University of Kansas. A profile of the student body reveals the following demographic elements:

- Average age 32
- Male 40%
- Female 60%
- Work full-time 90%
- Married 57%
- Minority students 10% (Progress Report).

From the information presented above, we can see the EC is a vital and growing part of the University of Kansas. It goes nearly without saying that the design and delivery of library services in this milieu represents a continual challenge. In many ways all the library services we provide to EC students and faculty represent services for distant learners. It is also true that no students at the EC are resident students in the traditional meaning of the term. It is equally true that distance learning is increasing by leaps and bounds at our campus and at the University of Kansas in Lawrence. In a survey conducted just last spring by the RCL staff we discovered that students want more access to more electronic databases, electronic reserves, desktop document delivery, more computers in the reference area, and more training provided by library staff (KU). The creation of this plan will be naturally linked to our desire to devise a long-term plan for collection development at the RCL.

A good deal of our overall success in the RCL has been and will continue to be affected by the relations with the EC administration, led by a resident Vice Chancellor, an Associate Dean for Academic Affairs, an Assistant Dean for Business Services, and a Director of Information Technology. Since these are the administrators directly charged with designing, developing, and delivering academic programs in congruence with the mission of the campus, it is of vital importance that collaborative relations be maintained among all stakeholders concerned with the success of the institution. Even now, the Vice Chancellor has made several commitments to the library in the form of funding positions and equipment. Such actions have tended to bolster relations with the KU Libraries administrators in Lawrence. Our goal is to further develop collaborative efforts designed to enhance and ensure student success at the University of Kansas and the EC.

To make sure that the library staff can continue to function as a team, strategic planning initiatives have been developed over the last few months. We have discovered that greater attention should be paid to the following issues:

- Aligning missions among diverse stakeholders
- Building cooperative relations
- Enhancing RCL staff communication
- Examining our changing ideas of "service"
- Melding "technology" and service in new ways
- Discovering new ways to introduce ourselves to students

Distance Learning at KU

The rate of growth of distance learning during the last several years has surpassed that of the EC. According to a recent article in the Chronicle of Higher Education, 35 states have a virtual university or other statewide organization devoted to distance learning (Young). The U.S. Department of Education estimates that 58% of all two- and four-year colleges offered distance learning courses in 1998; 84% of all colleges expect to do so by 2002 (National Governors 9). The Regents Online Catalog (maintained by the Kansas Board of Regents) lists more than 1,200 distance learning courses that are offered throughout the state (Regents). The growing number of partnerships between community colleges and 4-year institutions, such as the close cooperation between the EC and Johnson County Community College, and the easy transfer of credits give students new flexibility in developing their courses of study. They are no longer restricted by closed courses or those offered only intermittently at their home institutions.

The explosive growth in the number of Web-enhanced courses (1058 in Spring 2001) and the rapid growth of Web-based courses (71 in Spring 2001) has changed the dynamics of

teaching and learning. The change was caused in part by the University of Kansas' adoption of Blackboard™ as the primary course management software program along with an aggressive program of faculty education in its use.

These developments have changed basic definitions often resulting in confusion. For example, what is distance learning, and how is this different from distributed learning? For the purposes of this discussion, distributed learning is a broader term that refers to the use of any technology to bring together faculty and student separated by place and/or time. This can mean correspondence courses or those delivered using audio, video, television, or Internet technology. Distance learning at KU is used more narrowly and refers only to Web-based courses.

A related question is who are distance learners? Because of the increasing numbers of students who are shopping around for the courses they want, there is no longer a clear distinction between distant and traditional learners. Students living in a campus dorm are just as likely to take a Web-based course as is someone living at a distance from a physical campus. Now distant learners are just a sub-set of the larger group of students taking college classes, not a separate group.

Because distance learners are joining the mainstream and becoming a less distinct group, library collections and services they need and use are not so different from those required by traditional students. Just a few years ago, distant learners needed remote access to library resources; now everyone wants remote access. Libraries once viewed electronic information as a "luxury" for on-campus students and therefore limited access to the more expensive electronic resources to distant learners only. But today, distance learning is everywhere and is available to everyone.

This has forced libraries to make organizational changes. Increasingly, libraries are moving distant learning operations from the margins into the mainstream. Units once devoted to serving only the unique needs of distant learners are exploring integrated service models. Separate operations are expensive, whereas integrated models make better use of limited resources. Integrated services are most effective when supported by cooperation and collaboration.

Distance Education Initiatives at KU

In 2000, the Vice Chancellor for Information Services (VCIS) established the Task Force on Distributed Learning. Its purpose was to determine what initiatives were already in place as well as the future of distance learning at KU. The task force was to define distributed (and distance) learning, to use basic assumptions and principles to make policy recommendations, and to outline support and service needs for the university. The report of the task force was submitted to the Provost on July 17, 2001, for his consideration.

Also in 2000, the Libraries established the position of Coordinator for Distance Learning Information Services (DLIS). Burich was asked to take on this challenge and was granted a sabbatical leave to prepare for the new position. She examined different models for providing services as well as effective practices in distance learning across higher education. The Coordinator's early efforts included identifying key stakeholders, communicating with them about DLIS services through a new Web page (Burich, Distance), and meeting with them and with library staff members to gauge needs and promote collaboration.

In her search for ways to provide service to distance learners, Burich relied heavily on her 24 years of experience as Director of the Regents Center Library. In this capacity, she actively promoted this branch campus library as a test bed for designing services for its users that are

scalable for the wider university community. Historically, distance learning at KU has been concentrated at the EC, though courses on the Lawrence campus now are quickly expanding to match the EC pace. Edwards Campus students have long been considered distant learners due to being 40 miles from the main campus; most have also been considered non-traditional because they are adults. Most want remote access to library resources in addition to access to more traditional "modes" of information--printed articles and books delivered to the EC for their usage. In addition, many EC students still want access to a reference librarian from time-to-time and visit the library for this purpose.

The Regents Center Library as Collaboratory (Collaboration Laboratory)

Using the EC and the RCL as a test bed for developing new policies and services has a long history. In this section, we will discuss these collaborative efforts, including "traditional services" such as reference and instruction, WebRetrieve and other document delivery services, collection development challenges, and electronic reserves.

As Director, Burich actively initiated and supported opportunities to try new things. She was willing to fail, providing she learned something from the experience. She has had the full support of four different deans of the Libraries to initiate trials and pilot projects, and this support continues today for both the RCL and DLIS. The advantages of using the RCL in this way have been many: the limited risk and resources needed with a small sample; faculty who were generally willing to try something new and participate in pilot projects; and the existence of a high percentage of library users. Trials and pilot projects in this setting have facilitated the identification of issues involved in providing various services and the examination of their suitability for large-scale implementation on the Lawrence campus.

Service initiatives for distant learners at KU are beginning to take shape as those services originally designed for EC students are being modified. This is particularly appropriate as the definition of a distant learner changes and as the distinction between an off-campus student and a distant learner becomes less apparent. The key here is collaboration. A one-person operation without a budget of its own (i.e. DLIS) has few options. All services have been developed in collaborative ways using existing resources.

The services that the RCL currently offers include the "traditional" public services such as reference, instruction, and circulation, augmented by email and telephone reference assistance. In addition, the RCL has developed a "tiered" reference approach, a referral system whereby appropriate reference staff and librarians respond to reference queries as deemed necessary by circulation staff who may need additional expert advice. While classroom instruction is available and offered on a regular basis, the RCL also offers less formal one-to-one instruction sessions. We have discovered that given the busy nature of our students' lives, scheduling such one-to-one sessions is increasingly important.

Document delivery and ILL are essential services for RCL patrons. Edwards Campus students needed access to materials on the Lawrence and Medical Center campuses as well as to those not owned by KU. Further, an electronic request form developed at the University of Kansas Libraries known as WebRetrieve, is used to enable students to request materials from the Lawrence campus to be delivered directly to the EC. The RCL uses a variety of technological means to deliver information to patrons. In addition, traditional ILL services are available, but KU is planning to migrate entirely to a paperless request system by the beginning of next year, using WebRetrieve as the model.

Because this service requires that the patron come into the library to pick up the materials that have been delivered, we are also seeking ways to modify the service to fit the needs of distance learners who cannot physically travel to the library. Consequently, other document delivery/ILL initiatives are in the planning stages, including the use of Prospero, a software program capable of delivering scholarly materials to users' desktops. However, its use has raised copyright and intellectual property issues that have required study by the University's General Counsel. Yet another ILL trial being tested by KU Libraries involves the so-called RAPID system, now a pilot program, designed to greatly speed up the delivery of library materials sought through ILL among certain Greater Western Library Alliance institutions (formerly known as the Big 12 Plus).

Both WebRetrieve-requested documents and ILL materials are delivered via a courier service which, ideally, should be expanded to at least "two-a-day" delivery trips linking the main campus, the EC, and the KU Medical Center Dykes Library. With the demise of the state courier system in June of 2000, KU Libraries have come to rely on the United Parcel Services (UPS) to fill the role of intercampus courier. Discussions to date about the reestablishment of a statewide courier system have not been as successful as we had hoped.

Because we cannot rely exclusively on any courier system to meet all patron demands for information, it is necessary for the RCL to develop its own internal collection development plan to meet "core" needs. Since the RCL occupies a small facility and relies heavily on electronic delivery of information, we must develop a long-term, precise plan. It will be no easy task to develop our plan given the evolutionary nature of academic program development at the EC. Soon, a task force will begin developing an updated collection development plan. Such work will be informed by the needs of students and faculty, available funding, future technological

means we can use to acquire and deliver scholarly information, format of material to be collected, alignment of missions, and coordination of public- and technical-service activities between two distant campuses. Last but not least, the space available to the RCL as contained in the EC master plan will have to be considered.

Another public service challenge for the RCL has involved access to electronic information located on Lawrence-based LAN's and on IP-dependent terminals. In practical terms, we had to duplicate hardware and software, and provide support services for a separate RCL installation. WebRetrieve and the courier service required extensive resources in staff to gather and transmit the materials, funds to pay copyright fees, and an UnCover over-ride account to act as a quick substitute for interlibrary loan. Providing services at a distance is a labor-intensive operation.

Electronic reference services have been offered to the KU community for several years. The recent RCL survey indicates that students want this service. However, the current service needs to be modified to serve distant learners. An obvious factor is that individuals spread over many states or even countries will require different hours of service than users limited to one time zone. Because Web-based courses are being offered in many disciplines, users need access to subject specialists who work in all library units. Given the option of many departmental services, distant users could be confused and unable to choose the appropriate service. Consequently, the Dean of Libraries established a task force to develop recommendations to offer a single service. This centralized service needed to include access to government documents and to KU's special collections to enable distant learners to use all KU resources. The new service should be unveiled soon, coordinated by a new librarian in the Watson Reference Department (the main library on the Lawrence campus).

Another new service that is important to both RCL patrons and distant learners is electronic reserve. RCL staff is collaborating with Burich on design and delivery options for such a service. Just this summer we implemented an electronic reserve form for use by faculty, with the RCL serving as the test site for this new service. In addition, an electronic reserve service is being developed with distance learners in mind. However, the recent user survey conducted by the RCL indicates that this is a service wanted by their users, too. Once again, the VCIS established a task force to examine issues and make recommendations about providing this service to distant learners, but also eventually to the university community at large. The members of the task force included representatives from Academic Computing Services, Instructional Development and Support, the Vice Chancellor's office, EC Instructional Development staff, and the Libraries. The reason for this collaborative effort was to make all of our diverse and divergent policies and practices consistent.

Because we must provide electronic reserve collections for distant learners, we decided to enter into a trial of XanEdu's CoursePacks. We signed a limited partnership agreement with them to use their services to support one course during the summer 2001 term. They provide a packet of copyright-cleared materials via the Web that students purchase and use on the Web. Before the end of our trial period, four CoursePacks were developed and the experience has enabled us to examine the issues and processes involved in providing such a service. Most obvious was the need to take a stand on Fair Use. Because the Digital Millennium Copyright Act (P.L. 105-304) does not address distance learning issues and the CONFU guidelines (Intellectual Property) were never adopted, this area required careful examination by the University's General Counsel. We have decided to follow the guidelines developed by Georgia Harper for the University of Texas System (Fair Use) and to assert Fair Use for electronic

reserves. Another issue that is important to us is the ability to make full use of materials in the Libraries' collections without charging students. To do this, XanEdu has provided free links to articles in KU databases.

As a result of the trial, we have identified several issues that will require action or decisions by the university. The first is the realization that it is essential that we develop a program to educate faculty so that they can create electronic reserve collections on their own. Burich, as one individual, cannot provide service to every faculty member who is interested in offering electronic reserves. In an effort to address scalability, Burich has prepared a series of guides for faculty to help them to prepare their e-reserves with limited individual help. These guides have been added to the DLIS Web page (Distance).

The Libraries must also determine how to pay for electronic reserves. There will be costs associated with staff to process materials and keep records, payment of copyright fees, and the purchase and maintenance of equipment. Funding options identified as possibilities include library subject funds, academic department funds, or the creation of a new library general fund. Whatever options are used, we must be sure they are available to all faculty and that they do not exceed library resources designated for this purpose.

Future Collaborative Efforts

None of the efforts described above would have been possible without collaboration among key stakeholders. Change requires support from the highest levels of an institution. In this instance, both the VCIS and the Dean of Libraries have actively encouraged cooperation. The RCL and its staff as well as staff in the Lawrence-based departments have played an important role in adapting existing services to meet the needs of distance learners. Edwards Campus instructional development and technical support staff have also been willing to integrate

DLIS initiatives into their ongoing projects to support EC initiatives. Further technical assistance has been provided by Lawrence-based Instructional Development and Support (IDS) and Academic Computing Services (ACS) staff members. A large and diverse support team for DLIS is being identified and developed. Future successes will depend on the assistance of staff from virtually all library departments in Lawrence.

The support of faculty members from various departments has been another important factor in the success first of the RCL and now of DLIS. Bridges built during her tenure as Director have paid dividends for Burich. Beginning with one faculty member, she has carefully chosen other influential faculty members who are willing to try new service models. These "early adopters" have included one department chair, one associate dean, and one vice chancellor. Now these individuals are spreading the word and demand for services is growing. The challenge will be to keep the momentum going while working within our limited resources.

Keys to future success in the development of services for distant learners will build on those services used by the RCL and will include the continuing assessment of current services and the need for new ones, as well as the identification of an ever-expanding array of major stakeholders. The RCL director has identified several other areas that require attention, especially in terms of cooperation among KU bibliographers, those subject specialists charged with building our collections and instructing patrons in their usage. Issues related to licensing, purchasing, and having reasonable access to electronic databases require ongoing discussion and planning. Expansion of document delivery services will continue to be of vital importance to all stakeholders.

A more problematic key to the success of both the RCL and distance learning initiatives will be the ability to identify available resources, examine ways to reallocate them, and find

strategies to expand their purchasing power. Resources will be needed for collections, services, and transportation of documents and technical expertise. An essential part of resource reallocation will be the active collaboration and cooperation of colleagues at KU, both within the Libraries and in academic departments. The need to constantly expand the universe of electronic information available to users will make networking beyond the university critical. Participation in local, state, and national associations, workshops, and symposia will provide the inspiration for thinking creatively and using the experiences of others in finding ways to try the untested.

For us at KU, the key is to bring distance learning and branch campus library operations together. Working collaboratively, we can maximize the use of existing resources and, by re-allocating them in creative ways, forge a new model for the library as a whole. These shared resources and staff expertise will be used to provide electronic collections, document delivery, electronic reserve, and electronic reference to benefit both populations of learners. We know that our once-distinct populations of users are merging as are their expectations regarding services and collections. On a broader level, we need to continue to work with subject bibliographers and faculty to assemble relevant and useful collections, to deliver instruction, and to provide reference expertise. Together we must prioritize the use of limited resources to capitalize on strengths and further the strategic plans of various units and of the Libraries as a whole.

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Beyond Author/Title/Subject: Government Information in Context

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Abstract

Despite the sheer amount of government information currently available on the Web, most Web sites devoted to government information resources assume precisely the kind of background knowledge that average citizens lack: an understanding of the institutions, practices, and documentary forms of government. This presentation explores ways to incorporate this contextual knowledge into the design of library-based Web resources by exploiting the *generic relationships* common to bureaucratic modes of communication.

Generic relationships can be distinguished from three other types of relationships commonly found in bibliographic information systems (catalogs, indexes, etc.): *responsibility relationships* between a document and an author, publisher, or distributor; *conceptual relationships* between a work and its thematic content; and *bibliographic relationships* between a work and other works. All three of these types of relationships describe something about a *particular* document or work. Conversely, generic relationships describe the connections between *types or genres* of documents, *types* of institutions, and the *routine* practices of those institutions.

Although an understanding of these generic relationships is part of the professional toolkit of the government information specialist, little attempt has been made to formally incorporate them into information systems. Using the entity-relationship approach to conceptual

modeling, I develop a framework for using generic relationships in the design of Web pages for remote users. This same framework can be used in face-to-face and online reference interviews.

From Chaos to Consensus: A Hybrid Model of Web Page Management

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Abstract

The paper describes the current nature of library reference sources and the ways in which libraries are responding to demands for online service are described. Two models of Web page management—team and Webmaster—are compared and contrasted. The authors describe a hybrid model of Web page management that combines the two styles and provide an analysis of the benefits inherent in this mode of operation. We believe we have created a model for Web site maintenance that capitalizes on the strengths of both team management and individual expert models. While the vision, appearance, and content of the Web site are corporately determined, the day-to-day details that sometimes get lost when "too many cooks stir the pot" are managed by a team member who does an excellent job of "tying up the loose ends". Our team encourages other libraries responsible for large Web sites to learn from our experience and continue to refine this hybrid model that draws upon the agility and responsiveness of the individual and the collective creativity of a close-knit team.

Introduction

Hoffman poses the question, "Has your formerly humble Web site morphed into a complex, wide-ranging, text- and graphics-rich portal?" He challenges Web page authors to:

> Set your time machine to send you back to the dawning days of the Web. Remember the old, slow era of Web site development and deployment, when clever Web designers cranked out handcrafted HTML code on handy text editors

> and deployed it via File Transfer Protocol directly to their live Web sites . . . . Now jump forward a year or two —a few generations in Internet time—and site complexity has exploded. . . . The number of hits has increased exponentially and the content has changed, too. Now, your humble Web site is a portal and a place of business—not just a showcase or information repository. . . . Your site content must be updated instantly and constantly, and the site must be up all the time—with zero tolerance for errors and bad information, from any source (Hoffman).

The scenario Hoffman outlines exists in the world where reference librarians function at the dawn of the third millennium.

The Current State of Library Reference Service

The complexity and vast array of online information sources is altering the face of information retrieval and evaluation. Libraries are no longer physical portals housing information in printed form. Rather, many people consider going to the library to be synonymous with searching the Web and, in some cases, accessing the library's Web page. Public service librarians' roles have evolved from that of teacher-mentor in a face-to-face encounter to safari guide on a confusing trip through the jungle of information sources that may be as deceiving as hidden quicksand or as rich as an untapped gold mine.

> Information professionals must deal with an ever-growing number of information sources. In the midst of this richness, information available freely over the World Wide Web is an extremely important resource. Identifying relevant Web resources and managing them over time . . . is a time consuming and often inefficient process (Spalti).

Library customers today can, and very often do, access a library's proprietary databases, print copies of periodical articles from scholarly journals, and retrieve information from classic reference sources without ever crossing the threshold of the library. Although the circulation of library materials from Owens Library at Northwest Missouri State University has decreased by 40% in the past five years and the number of books shelved after use has dropped by 62%, students are still using sources selected by librarians. They are accessing online resources from remote sites using the Internet as indicated by the ever-increasing hits on library Web pages. This volume of traffic is documented by the fact that hits on the library home have increased 22% during the past three years (up from 103,320 in 1998 to 125,859 in 2000). In addition, students are viewing online full-text periodical articles at a higher rate with the number of articles viewed increasing by more than ten thousand in the past two years. Guenther maintains that:

> [A]s those we serve become increasingly remote from the physical library, our ability to understand how to meet user needs requires really effective analysis. Increasingly, the needs we assessed first hand and face-to-face via the traditional reference interview are now inferred from online transactions extrapolated from patterns of traditional library use (Guenther).

As the mode of providing service shifts from face-to-face to online, libraries are scrambling to reallocate labor from in-person service to online assistance that expertly serves customers and enables their access to appropriate quality services. One area of workload that has greatly increased is the area of Web page development. Librarians can no longer just create a page including links to information about a subject. They must now manage an ever-increasing flow of new pages to design and older pages to update. These pages include research guides,

tutorials, and online public service forms. Many library Web sites have outgrown the capabilities of the public service staff or the single Webmaster charged with their maintenance. Some academic libraries maintain sites so large that teams of Web authors struggle to keep up with what Trepper describes as "large Web sites [that] comprise thousands of pages of dynamic and static content, ranging from HTML pages to graphics files and database scripts" (Trepper). He concludes that "obviously there's no way a single Webmaster, or even a team of professionals, can manually manage this growing complexity" (Trepper). Although an academic library's Web pages may number in the hundreds rather than the thousands, librarians still struggle with Web design and organization issues. These issues are the backbone of dreams (or nightmares) in which we "imagine a library without the Dewey decimal system, and . . . [experience the] idea of the chaos that is a large Web site" (Morgan). Unfortunately most academic libraries cannot afford to purchase expensive Web site management software or servers to control, store, and deliver Web sites. Rather, university and college libraries are often struggling to retain a professional Web presence using only the wits and the efforts of a team of public service library professionals who were originally trained to provide one-on-one service at a reference desk.

Merging the Team and Webmaster Model

There are constraints and advantages of managing a large Web site using either a single Webmaster or a team of Web authors. Teams provide multiple perspectives when considering content and design issues, but there are often difficulties inherent in reaching consensus. Teams must negotiate the rocky road necessary to satisfy those who possess strong preferences in regard to Web design. Some individuals are opposed to frames or tables and prefer lists while other Web designers consider frames and tables to be the design of choice. Davidson and Rusk,

participants in a team charged with planning Oregon State University's Web site, noted that "common dislikes were often easier to identify than common likes" (Davidson and Rusk). A single Webmaster is more likely than a group of authors to provide a cohesive vision for a site. However, one-person operations often struggle because of a "Webmaster bottleneck" (West, Huff, and Turocy) due to limited time available for an individual to complete the myriad of tasks associated with the maintenance of a large Web site.

The issue of consistency is further highlighted by Trepper who advocates that "templates ensure that all content fits into the standard format of a company's [or library's] Web pages" (Trepper). Although maintaining a Web site with a team of authors provides a cadre of labor able to accomplish more than one individual, each team member must agree to design within the constraints of the template. Failure to maintain consistency throughout a Web site will result in a less than professional interface and user confusion. According to Earle:

> A "web" organizational structure mirrors the Web itself: a collection of pages connected by a rich assortment of links which can be accessed in a variety of ways. Done well, this structure offers a distinct . . . site experience to many different visitors. Done less than well, it offers these same visitors a disjointed and confusing maze (Earle).

Muhammad and Rohan support this assertion noting that "no one should have to figure out a pictorial map on page one, decipher a navigation bar on page two and negotiate a row of poorly marked buttons on page three" (Muhammad and Rohan).

Difficulties arise in team-based management when consensus is an elusive goal and a team must allow an individual to make a decision because the group is equally divided in opinion and the choice will not affect the integrity of the Web site. A specific example of this type of

dilemma is a 50/50 team disagreement over the muted color chosen for consistent Web page backgrounds throughout a site. Other instances where the difficulty of reaching consensus is a drawback for teams include decisions regarding details incorporated in common Web page elements such as headers and footers.

Team management offers an organization the opportunity to enhance the creativity and substance of a Web site because multiple authors provide a wider range of expertise in conceiving ideas and creating content than one individual. However, as the number of authors increases and the scope and size of the site expands, problems arise with adhering to style standards. The challenge is to develop and assemble a working team or a group of advisors with a wide variety of expertise to contribute knowledge of graphic design, page layout, technical writing skills, network constraints, and analysis of Web page hits. Davidson and Rusk document the experience of a Web site management team that struggled with the need to:

- resolve issues of design,
- guarantee access to a wide range of users with varying levels of hardware and software capabilities,
- and provide oversight of Web page maintenance and publishing policies (Davidson and Rusk).

Our Local Experience

We believe that academic library Web sites are richest and of a higher quality when a team of authors contributes a wide range of talents and skills to maintain the site. This paradigm is supported by the experience of Davidson and Rusk who have concluded that a "motivated, supported, and well-guided team can meet demand for a new Web site in a flexible and relatively timely fashion. Working out solutions to the problems presented by . . . differences in

approach and philosophy enables creation of a . . . vital and useful Web structure" (Davidson and Rusk).

However, we also employ a Web coordinator who manages the day-to-day details of compatible page elements and adherence to template standards and provides cohesion and guidance to assure a consistent look and feel to the site. We do this because we believe that Web sites of more than 100 pages are best managed by teams who rely upon the direction of a Web coordinator. We use this type of blended model for our Web site of more than 500 pages. A team of seven reference personnel and highly trained student employees design and maintain a Web site with the assistance of a Web coordinator (also a reference team member) who manages student employees as they assure consistency throughout the site by:

- checking links on a rotating schedule,
- correcting headers and footers that do not adhere to the library's Web page standards,
- and making vocabulary and semantic changes to Web pages.

Six years of Web page experience have helped us discern which Web site management tasks and decisions are appropriate for consideration by the entire team. Team input and consensus regarding site design issues have improved the look and functionality of our academic library Web site. Input from library employees who work throughout the library organization has also provided us with insight and a fresh point of view uninfluenced by the "group think" that sometimes emerges when a small group works together for long periods of time. In addition, one of our team members previously worked as a Webmaster at another university. She found that input from service points other than the reference department improved the functionality of their Web-based catalog interface. The periodicals librarian in that organization suggested that a link for title searching be provided in a highly visible area of the page because it

was frequently used. One Web page editor in our library discovered that polling employees from public service departments throughout the library (circulation, periodicals, audiovisual) helped her create more functional and attractive designs for portal pages that offer links to large subgroups of Web pages within the site.

Our experience with a Web management model that merges the management style of Webmaster and team has allowed us to capitalize upon the most valuable aspects of team management:

- corporate discovery and acceptance of a vision through sharing ideas, respect, and consensus building;
- value added decision-making as a group learns to brainstorm solutions and piggyback off one another's ideas;
- and sharing the workload of a labor-intensive project among several participants.

We streamline site maintenance by employing:

- the creative use of student labor to perform routine maintenance tasks;
- and group recognition that some decisions are not weighty enough to occupy the time needed to reach consensus and are better handled by an individual.

Perhaps the best illustration of how our merged management process works is reflected in the method that we employed to develop a new online research tutorial for English Composition students. The team divided up twenty academic online tutorials of high quality with each member agreeing to research the positive and negative aspects of 2-3 tutorials. The team met as a group to discuss examples of positive features identified during the Web site analysis. Because we shared our individual research findings in a team meeting, we were able to help one another assess the validity of one another's research findings and select an appropriate design

incorporating the most effective instructional ideas identified during our research. The team of seven members divided into smaller groups. One group developed a design template for the tutorial and asked the team for suggestions and approval. A second group created the content using the template to flesh out the tutorial. The entire team reassembled to edit the rough draft of the tutorial. Once the tutorial was live online, the Web coordinator and the cadre of student employees managed day-to-day maintenance of links and application of publishing standards. Another strength of the team-managed Web site is the peer-review process our team employs. A draft of each new page is printed and routed to the other members of the Web team who read the content in print and view it online. Suggestions for improvement are written on the printed copy that is routed in a round-robin fashion. When the printed copy is returned to the author, all comments offered by the various members of the team appear on one draft. The Web author reads and considers the suggestions. Often one team member will propose a change that is not supported by others. This division of opinion is apparent to the page author who may then choose to adopt the majority view or call the group together to discuss the problem.

Recently, the team adopted Web page standards for vocabulary use and annotation writing. The Web coordinator, with the help of the student employees, has managed the application of these new standards to the approximately 520 pages on the Web site.

Conclusion

We believe we have created a model for Web site maintenance that capitalizes on the strengths of both team management and individual expert models. While the vision, appearance, and content of the Web site are corporately determined, the Web coordinator manages the day-to-day details. This takes care of the quality control and consistency that sometimes get lost when many authors are working on separate parts of a Web site. Our team encourages other

libraries responsible for Web sites to learn from our experience and continue to refine this hybrid model that draws upon the agility and responsiveness of the individual and the collective creativity of a professional team.

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Integration of Instructional Technology into Courses

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Abstract

At Northwest Missouri State University's Center for Information Technology in Education (CITE), a concerted effort is being made to move campus-based and online courses to the next level where a true change in the teaching/learning paradigm becomes evident. The focus of this presentation will be on the integration of instructional technology, in its diverse forms, into campus-based and online courses. Examples of instructional concepts employing various multimedia technologies such as Flash, Director, Toolbook II, and HTML will be demonstrated. Additional information about the incorporation of library-based research components will also be discussed.

Tailoring Reference Services for the 21st Century User

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Abstract

The 21st century has arrived, and with it a new generation of academic library users. These individuals have service expectations and use patterns that differ from those of their predecessors. Users regularly access library services from remote locations, and e-mail has become a common means of posing reference questions. Growing numbers of individuals are accessing library services around the clock. To remain relevant to this new generation of library users, librarians must be able to provide reference services in a fashion that meets the particular needs of these users. Reference service can be tailored to include the proper mix of all the basic service components: new and traditional library services, the assessment of those services, and the enhancement of information literacy. New technology presents librarians with options for delivering both virtual and in-person reference services that can be tailored to individual needs and preferences. It is often librarians who are in the best position to conduct information literacy instruction and service assessment. Academic librarians today have an opportunity to reach out to 21st century users by re-structuring library services and moving into effective new roles. This paper examines changes in user needs and expectations, explores possible new roles for academic librarians, and suggests a model of tailored reference service that may be used to address this situation.

Introduction

Now that the Y2K problem is in the past, it is possible to see that more has changed than the millenium. Library users have changed, the information tools available to them have changed, and the way in which users interact with libraries has changed. Reference service at many academic libraries has been impacted by these changes. Some say that the basic role of providing assistance to information seekers at the point of need is "in trouble". Indeed, that "point of need" is becoming increasingly broader and less defined. The point of need could be a workstation in a remote part of the library, at the users home, or in a computer lab on campus (Grodzins-Lipow 50). Many patrons believe that they can find what they need on the Internet, without the help of a librarian. Fewer patrons avail themselves of desk-based reference service. Increasing numbers of users are taking advantage of remote-access library services that are often served with no option to seek librarian help. In fact, a 1996 survey conducted by a major library systems vendor presaged present conditions: students indicated that they would prefer studying at home but "at home there is no one to help" (Ward 22). Often, today's user does not keep or meet standard office hours. Twenty-four hour remote access to services is expected. In part because the Internet is so often billed as easy to use, even patrons working in the library hesitate to ask librarians for help. Complicating the resolution of these issues is the fact that, with or without proper access and assistance, many students are arriving at libraries very deficient in information literacy skills.

In this time of advancing technology, library users need a combination of new and traditional information services -- a tailored approach. Tailored clothing can be constructed in many different patterns, but all of the proper pieces must be represented in the finished garment. Similarly, library service may be tailored by selecting the correct "pieces" and assembling them into an effective model. Librarians are in the best position to develop a tailored approach to

reference that includes the best combination of modern information technology, human service at the point of need, and instruction in the information literacy skills needed to use these resources. In a rapidly developing environment with limited resources, it is also essential to assess programs and continue assessment to ensure that changes remain effective.

To accomplish all of this, librarians must determine to remain relevant in a changing information environment and embrace a leadership role in making these changes successful.

Modern User Patterns

In this new environment of changing services and logistics, users seem to have developed different information-seeking habits. Growing accustomed to a "norm" of twenty-four hour remote access, many users have migrated out of the library to study at home, in labs, etc. Librarians are truly challenged to assist users in the effective use of electronic resources when the majority of users are beyond reach of the librarians (Newins 11).

Patrons working in the library, accustomed to doing many tasks "online", are increasingly hesitant to approach a librarian for assistance. Students often attempt to confer inconspicuously with neighbors or attempt trial-and-error rather than draw attention to themselves by asking for help (Weiler 161). Other reasons for this behavior include the fact that a user may be working in a part of the library remote from the reference staff, or may not want to risk losing access to a workstation while going to a reference desk. When patrons do seek help, however, they typically require more assistance than in the past (Kyrillidou 427). These facts point to the need for a mix of electronic services and professional human assistance. Human assistance may be presented in several forms: the traditional staffed "desk" service point; consultation by appointment in the office of either the patron or the librarian; or a virtual presence via a chat or online/telephone connection.

Beyond the mix of the services themselves is the need for extended availability of services. An electronic information tool is of little use if, upon access, there is no support available to the end user. Librarians need to provide this support and must assist users in developing basic information literacy skills.

Information Literacy

Information literacy has been defined in several ways, but many agree on the basic definition that library information literacy is the ability to access, evaluate, and use information from a variety of sources (CMLEA 26).

Students arriving at college are often ill-prepared to grapple with the library information resources presented by the modern academic library. Compounding the problem is the fact that many students have come to believe that accessing and using information is easy, a belief supported by marketing practices and popular usage of the Internet. Popular usage may be easy, but effective research usage is not. Librarians often presume that students have now "grown up with computers" but, in many cases, students arrive at college with no significant training in information literacy. Many secondary schools claim to integrate information technology into the curriculum but, in fact, this training is often neither monitored nor evaluated. Students, as Weiler so aptly puts it, often simply do *not* "know all that stuff" (Weiler 167).

In the face of this need, there is often precious little time in any academic curriculum to add anything, even something as significant as information literacy training. Creative means are, however, available to librarians and will be discussed later as one element of a new service model. Information literacy training can and should be adapted to local needs, but academic libraries and librarians are most often the best choice for developing and delivering such training.

Evidence of this is found in the ACRL Information Literacy Standards for Higher Education, where student learning is viewed as a joint responsibility of the university and the library. When the library changes the focus of its mission from a content view (books, subject knowledge) to a competency view (what students will be able to do) the library can actively contribute to achievement of learning outcomes. In this type of instruction, practical reigns over theoretical. Point-of-use and time-of-need is most often the best environment in which to develop information literacy skills, and the library, be it "brick" or "click", is the environment in which those needs occur (Willingham 70).

Finally, it is the librarians, with their extensive experience in broad fields of inquiry, who can best advise users about the "charlatans" of information that lurk on the Internet and within other information resources (McKenzie 127). While there has always been suspect literature available to the unwary researcher, the self-publishing aspect of the Internet has made it even more essential for library users to be educated about McKenzie's principle: powerful questioning leads to information power -- the ability to fashion solutions, decisions, and plans that are original, cogent, and effective.

However information literacy issues are addressed, librarians should recognize that students will continue to need a balanced mix of services.

Staffing Implications: Supporting the Tailored Mix of Services

As new services are added, the traditional, i.e., human, service component must be maintained as part of the tailored mix (McKenzie 127). In practice, adding services does not involve adding a new department or unit to the library. Rather, most libraries will find that new electronic-based services are added without the benefit of additional staff. And, as noted above, traditional (desk-based) reference encounters are taking more time than in the past. While

staffing is always a challenge, in this case it can be turned into an opportunity to catalyze the development of new staffing patterns, a new mix of services, and to develop new roles for existing librarians (Youngman). Whether or not librarians choose to embrace the fact, new roles have been created for them. Many libraries are now pursuing initiatives that are deliberately structured to emphasize direct contact between library subject specialists and academic departments. This results in the enhancement of much-needed consultative services, but at the expense of librarian hours available for desk-based service. While it is true that desk reference questions are declining, recent ARL statistics for 82 reporting libraries are still indicating a median number of approximately 117,000 questions per year. Even proponents of increased library electronics note that traditional services are an integral part of any future reference service model (McKenzie, 127). When tailoring the service package, the traditional reference service component can be modified, but it cannot be ignored.

Increasingly, librarians are finding themselves employed in a new role as content developers -- i.e., contributors to or developers of a variety of information resources served to patrons across the Web, often through digital library setups. Web tutorials, specialized "non-acquired" databases, and specialized subject assistance Web pages are examples. Librarians should be paying attention not only to improving library-use instructional resources, they should also be improving the electronic user interface so that less instruction is necessary (Newins, 11).

The need for traditional interaction between patron and librarian is not limited to the reference desk or the individual in-person consultation. Remote users need as much, or more, librarian assistance as in-person users. Technology now allows the implementation of virtual references, either chat or voice-based, and these services can be quite effective in extending

service to distant users. However, staffing for this function typically must come from the ranks of existing librarians.

The staffing needs, pressures, and challenges represented above are all too typical, but it may be difficult to develop a solution without considering a real model. The example of Kansas State University (KSU) Libraries may be of help in this.

A Service Model

At some point, it is necessary to make the transition from operational theory to actual practice. The operational guidelines in this case were driven by the KSU Libraries Strategic Plan. Based on that plan, the Kansas State University Science and Engineering Libraries Department has begun implementation of several of the projects discussed above, and it is hoped that those experiences are representative enough to be used as a model for other academic libraries. The departmental implementations are based on a study of national trends and practices, coupled with input from local assessment initiatives. Implementations noted below were made with no additional staff.

At KSU Libraries, changing user habits and the increased use of remote-access information resources coincided closely with the early development of a digital library prototype. This situation has offered the opportunity to experiment with new roles for the librarians while tailoring the mix of services to accommodate user needs and staffing realities. Subject specialist librarians now spend extensive amounts of time in consultation and other interaction with teaching and research faculty. Consequently, desk reference has been refined to a core period, with accommodations made for reference by appointment. Current and ongoing development of a digital library prototype has also created roles for KSU librarians as content developers -- those who identify and/or create unique content for the KSU Digital Library (Haddock).

While it is always difficult to find room in the curriculum for library instruction, librarians can be both creative and aggressive in developing alternate means of promoting information literacy. This year, the KSU engineering librarian is teaching classes in the Engineering Honors Seminar, with required student work sessions in the engineering library. College of Engineering administrators recognized the need for this type of instruction and modified the course to include library lectures and small-group tutorials in the library. Limited staff time is leveraged by carefully mixing lectures, and small-group tutorials. This project has successfully advanced information literacy learning outcomes without seriously disrupting the delivery of traditional reference service.

To accommodate the increasing number of remote users, virtual, or "chat" reference service is being developed. Piloted at KSU in Fall 2001, this service will afford remote users the chance to interact with a live librarian. This activity is a new role for KSU librarians but, because no additional librarians are available, it has also been an opportunity to examine and adjust the proportion of library staff time allocated to various other activities.

These projects are representative of one model. Each library must construct a tailored service based on local circumstances. Critical to the success of any model, however, is service assessment. Especially in times when staff (and other scarce resources) are being reallocated in a new model, a strong assessment program is necessary to ensure the best advantage is being taken of these resources. KSU Libraries has adopted an assessment regimen generally based on ARL guidelines. Focus groups and outside consultant review have been combined with the ServQual instrument. Run on a reiterative basis, ServQual provides information on how to allocate resources, and feedback on how "changes" (in response to the assessment) are working. The

cyclical use of this assessment tool and the communication of changes to the users are important in ensuring the ongoing success of this project.

Conclusion

Yes, library users have changed, information resources have changed, and the role of an academic librarian is changing, whether or not we admit it. Librarians face a choice -- either embrace the change and continue to provide excellent information service or ignore the change and risk becoming irrelevant. Users will benefit when librarians implement programming that reflects a philosophical change from a content view (books, subject matter) to a competency view (what students will be able to do), and a change from an "object-centered" to a "user-centered" approach (Smith 2, Budd 258).

In the future, the most effective reference departments will likely provide a tailored mix of both traditional and new library services, with a focus on information literacy and personal service. An effective assessment program can provide feedback to ensure that the mix of tailored resources remains effective. With these elements in place, academic libraries and librarians will continue to be relevant and effective into the 21st century.

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